



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,833	07/28/2006	Toshiaki Morita	2691-000045/US	9826
30593 7590 11/19/2009 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195				
EXAMINER PETERSON, KENNETH E				
ART UNIT		PAPER NUMBER		
3724				
MAIL DATE		DELIVERY MODE		
11/19/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/587,833

Applicant(s)

MORITA, TOSHIAKI

Examiner

Kenneth Peterson

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-13 and 16-21 is/are pending in the application.
- 4a) Of the above claim(s) 12, 13 and 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 16 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/838)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. Claims 11,16 and 21 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

When adjusting the suction state in stages, it is not understood how to take into "*consideration the already cut portion of the sheet material as a reference*". What type of information is gleaned from the cut portion? How is this information utilized to adjust the suction stages?

2. Claims 11,16 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what weight should be given to the phrase "*taking in consideration the already cut portion of the sheet material as a reference*". It is not clear what would constitute an infringement of this step because this step is not understood as set forth above.

Furthermore, it is not clear what would or would not constitute a "stage". For example, one could argue that a variable speed suction device had multiple stages, where the first stage was below a certain pressure and the second stage was above that certain pressure. It could be argued that anything that changes over time had "stages".

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11,16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber (US 3,682,750) in view of Kinta (US 5,277,092).

With respect to claim 11, Gerber discloses a method for adjusting suction of a cutting machine when cutting is performed with the cutting machine in which a sheet material (14) is sucked and held on a table (surface 42) and a cutting blade (20) is moved with respect to the table based on preset data, comprising: while an already-cut portion is covered with a sealing sheet (26) so as to prevent leakage from increasing, as cutting progresses. Gerber does not disclose the method further comprising the steps of confirming an extent of leakage from an already-cut portion, and adjusting a suction state without any substantial time delay so as to compensate for reduction, due to the leakage, in a holding force on the sheet material on the table, and in consideration of a covered state with the sealing sheet.

Kinta discloses a similar type cutting method and machine wherein a pressure sensor (D1) confirms an extend of leakage from an already-cut portion, and adjusting a suction state (blower speed based on an input pressure by 91) so as to compensate for reduction, due to the leakage, in a holding force on sheet material on the table. Kinta uses the pressure sensor to monitor the holding pressure and adjust the blower speed

in order to hold a preset value of holding pressure (see column 1 lines 56-68). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Gerber to include sensing means to detect pressure drops as a result of cutting and a feedback circuit to adjust the blower speed to maintain the holding force in view of the teachings of Kinta. Examiner notes that the device of Gerber has a sealing sheet and the method of Kinta senses the pressure as a whole, so when placed with the method of Gerber, the sealing sheet is considered by the pressure sensor.

With respect to claims 16 and 21, Gerber discloses a suction adjustment apparatus, of a cutting machine, for adjusting a suction state, when a sheet material (14) is cut by moving a cutting blade (20) based on preset data in the cutting machine in which a sheet material is sucked and held on a table (42), comprising: mask covering means (24) for covering an already-cut portion with a sealing sheet (26) so as to prevent leakage from increasing. Gerber does not disclose suction amount adjustment means for confirming an extent of leakage from an already-cut portion, and adjusting a suction state without any substantial time delay so as to compensate for reduction, due to the leakage, in a holding force on the sheet material on the table, and in consideration of a covered state with the sealing sheet.

Kinta discloses a similar type cutting machine wherein a pressure sensor (D1) confirms an extend of leakage from an already-cut portion, and adjusting a suction state (blower speed based on an input pressure by 91) so as to compensate for reduction, due to the leakage, in a holding force on sheet material on the table. Kinta uses the

pressure sensor to monitor the holding pressure and adjust the blower speed in order to hold a preset value of holding pressure (see column 1 lines 56-68). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the apparatus of Gerber to include sensing means to detect pressure drops as a result of cutting and a feedback circuit to adjust the blower speed to maintain the holding force in view of the teachings of Kinta. Examiner notes that the device of Gerber has a sealing sheet and the method of Kinta senses the pressure as a whole, so when placed with the method of Gerber, the sealing sheet is considered by the pressure sensor.

In regards to the amendments to all of the independent claims, Kinta teaches changing the suction over time, and thus has "stages". Furthermore, Examiner takes Official Notice that it is well known for control systems to establish a no-change tolerance zone. For example, Examiner's 35 year old furnace in his home has a no-change tolerance zone. If Examiner sets the temperature at 21 degrees Celsius, no-changes occur in the operating system when the temperature is within an expanded tolerance zone of 20.5-21.5 degrees, and thus the furnace operates in "stages" to avoid rapid fluctuations. It would have been obvious to one of ordinary skill in the art to have further modified Gerber by making his new variable suction have a control system with a no-change tolerance zone, as it well known as set forth above, in order to avoid wasteful rapid fluctuations in the system. Examiner can provide additional references if challenged to further support this old knowledge of control systems.

In regards to the phrase "*taking in consideration the already cut portion of the sheet material as a reference*", Kinta meets this since his system is adjusted based on the leakage that occurs in the already cut section.

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Peterson whose telephone number is (571)272-4512. The examiner can normally be reached on Monday-Thursday, 7:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571)272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth Peterson/
Primary Examiner, Art Unit 3724